Module name	**Environmental protection – an extensive course**
Module code	B-BM.087Eng
ISCED code	0511: Biology
Study cycle	I^{o}
Semester	winter
Responsible for this module	Marek Kucharczyk Department Zoology and Nature Protection email: marek.kucharczyk@umcs.pl
Language of instruction	English
Website	
Prerequisites	general knowledge of botany, zoology, ecology and geography
ECTS	3
ECTS points hour equivalents	Contact hours (work with an academic teacher) – 75 - lectures: 30 - labs: 30 - field classes: 15 Non-contact hours (students' own work) – 15 - preparation for didactic activities - 5 - preparation of written studies of laboratory classes - 5 - studying literature on the subject - 5 **Total number of ECTS points for the module - 3**
Learning outcomes verification methods	lecture - essays (W1-3, U2-3) laboratory - continuous assessment (W1-3, U1-3, K-1) field classes - continuous assessment (U1, K-1)
Course full description	Lectures: Forms of environmental exploitation. Degradation of pedosphere: erosion, biological degradation, contamination of soils. Global climate change. Social and economic impacts of climate change. Health effects of air pollution (smog, ozone depletion). Human impacts on the global water cycle. Water pollution (eutrophication, petroleum products, plastics). Water resources, access to drinking water, sanitation and hygiene. The concept of biodiversity - problems of biodiversity protection. Biological extinction and expansion. Forms of environmental exploitation. Environmental exploitation - sustainable development strategy. Laboratory: Organizational meeting Protected area types (IUCN categories, national and international conservation areas) Counsil Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (Habitats Directive) Biodiversity and species protection (red lists, IUCN categories of conservation status, keystone species, reintroduction of native species, legal regulations) Bioinvasions - consequences for natural environment

	and humans Ecosystems under human pressure (ecosystem transformation, main threats, global resources and rate of decline, ecosystem services, most valuable natural and seminatural habitats, best practice in management) Aquatic and wetland ecosystems (Frame Water Directive) Woodlands (forests management and conservation) Agricultural areas (agri-environmental schemes) Biological response to climate change Restoration ecology Convention on International Trade in Endangered Species of Wild Fauna and Flora (text, appendices) Convention on the Conservation of European Wildlife and Natural Habitats (Bern Convention) - appendices Convention on the Conservation of Migratory Species of Wild Animals (Bonn Convention). The Convention on Wetlands, called the „Ramsar Convention" Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds. Biomonitoring Field classes: Field research methods used in biology. Methodology of field research in ornithology. Protected areas, recognition of species in the field.
Bibliography	Ahluwalia, V. K. 2015. Environmental Pollution and Health. New Delhi: TERI Harrison, R. M. 2001. Pollution: Causes, Effects and Control. Edition: 4th ed. Cambridge: Royal Society of Chemistry. Spellman, F.R.; Stoudt, M.L. Lanham, M.D. 2013. The Handbook of Environmental Health. Scarecrow Press. Sutherland W.J.2006. Ecological Census Techniques a handbook. Cambridge Unversity Press. Convention on International Trade in Endangered Species of Wild Fauna and Flora. Convention on the Conservation of European Wildlife and Natural Habitats. Convention on the Conservation of Migratory Species of Wild Animals. The Convention on Wetlands. Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds.
Learning outcomes	**KNOWLEDGE** W1. Has knowledge about the variability of the biosphere and its relations with the environment based

	on data from main disciplines of biology and other natural science disciplines (K_W02, K_W03, K_W04) W2. Knows the basic notions and terminology used in environmental and health sciences (K_W05). W3. Characterises relationships in the abiotic and biotic environment and human health (K_W07, K_W08, K_W12) **SKILLS** U1. Makes simple field measurements and observations with application of information techniques and formulates correct conclusions (K_U03, K_U06, K_U07) U2. searches for, understands and has an ability to use scientific texts in the field of natural sciences (K_U08, K_U09, K_U10, K_U11, K_U12, K_U13) U3. Has an ability to prepare essays and oral presentation presenting environmental problems (K_U16, K_U17) **SOCIAL COMPETENCES** K1. Presents a pro-environmental attitude based on the developed knowledge about the relations between health and the state of the environment (K_K03, K_K06, K_K07)
Practice	-
Teaching methods	Lecture and discussion